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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/523,919
Filing Date: February 07, 2005
Appellant(s): WOLFERT ET AL.

BASF SE
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/19/08 appealing from the Office action mailed 4/15/08.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6)Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,581,174	Ohlinger et al.	4-1986

(9) Grounds of Rejection

The following ground(s) of rejection as advanced in office actions of record are applicable to the appealed claims:

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohlinger et al. (US 4,581,174).

The instant claims are drawn to a process for preparing an aromatic diisocyanate by reacting phosgene with a diamine, in which the pressure is between 3-20 bar and the temperature is between 200 to 600°C.

Ohlinger et al. teaches a process for continuous preparation of an aromatic diisocyanate (column 4, lines 7-10) by reacting phosgene with a diamine (column 3, lines 33-34), in which the pressure is between 5-100 bar and the temperature is between 100 to 220°C (abstract; column 4, lines 46-48), along with an inert organic solvent (column 4, line 22).

Ohlinger et al. is deficient in the sense that it does not explicitly state the temperature in the reaction zone, the concentrations of the inert medium and phosgene, and the phosgene holdup.

However, it would be prima facie obvious to one of ordinary skill in the art at the time of the invention, to determine the temperature in the reaction zone, the concentrations of the inert medium and phosgene, and the phosgene holdup, in the optimization process. One of ordinary skill in the art would be motivated to optimize these limitations with the reasonable expectation that the yields would be increased, the energy consumption would be lowered and to facilitate operations overall. Absent any showing of unusual and/or unexpected results over applicant's particular process, the

art obtains the same effect on the purity and yield of the aromatic diisocyanate. The expected result would be the efficient production of aromatic diisocyanates in high yield for the chemical industry.

(10) Response to Argument

Applicants argue that the claims are drawn to a process for preparing aromatic diisocyanate by reacting phosgene with a diamine in the gas phase, whereas Ohlinger et al.'s process is carried out in the liquid phase.

Ohlinger et al. teaches the same conversion of aromatic diamines to aromatic diisocyanates (column 3, line 50-59; column 4, lines 7-10). Though Ohlinger et al. is silent as to the phase of reaction, the claims still read on a process in which liquid reactants can convert to the gaseous phase as the reaction progresses. Additionally, the claims do not require all the reactants to be in the gas phase, only the diamine. Thus, it is the position of the Examiner that it is prima facie obvious to perform the reaction in the gas phase, as well as in the liquid phase, particularly since the prior art also teaches that the reaction can be carried out in either the gas phase or liquid phase, depending on the nature of the amine (column 1, line 13-14).

Additionally, claim 2 appears to require the temperature of the diamine to be such that the diamine would be in the form of a liquid, since the temperature of the reaction is below the boiling point of the diamine. This does not appear to be commensurate with the limitations of base claim 1, in which the diamine would be in the form of a gas.

For the reasons discussed above, it is believed that the rejections should be sustained.

(11) Related Proceedings(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Jennifer Cho/

Jennifer Cho

Patent Examiner, AU 1621

September 10, 2008

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